5. (Newly Added) A display device as claimed in claim 4, wherein said electrodes (30, 31) are provided at said bottom of said longitudinal channels (20) and each longitudinal channel comprises a central part (52) having a first depth, flanked on one or both sides by a second portion (53) having a reduced depth, a third portion (54) having a depth corresponding to said first portion (52), bottoms of said first, second and third portions extending in said bottom plane (I); and a fourth portion comprising said sloping ramp (55), said second portion forming (53) a groove in said plate, in which groove a sealing material is provided.

6.(Newly Added) A method of manufacturing a display device, the method comprising:

providing a plate (36) having longitudinal channels (20) and a peripheral part (50, 51) adjacent to at least one side of said channels;

disposing electrodes (30,31) in said longitudinal channels, said electrodes extending in said channels (20) and exiting said channels on said peripheral part; and

providing said peripheral part in said plate at a depth between a bottom and a top of said longitudinal channels, wherein said channels are provided by moving a grinding wheel or grinding wheels across said plate along a direction, said grinding being started at a position away from an outer edge (57) of said plate (36) and being stopped before said grinding wheel reaches an opposite outer edge of said plate.

REMARKS

Upon entry of the present amendment, claims 4-6 are pending. Claims 4 and 6 are the independent claims.

Objections to the Drawings

The drawings have been objected to for various reasons. Some of these objections have been addressed via the proposed drawing changes. Others have been addressed via amendments to the specification.

With regard to the objections enumerated on page 2 of the Office Action, items 1,2,4,5 and 6 have been addressed via proposed changes to Figs. 1, 2 and 4. Upon approval of the changes to the drawings, formal drawings including these changes will be submitted for approval.

The objection relating to reference numeral 12 in Fig. 2 is addressed via an amendment to the specification discussed below.

With particular regard to the objection to drawing Fig. 5 as set forth on page 3 of the Office Action, the undersigned attorney has reviewed the disclosure and respectfully disagrees that the application is want of a showing of the 'sloping ramp part 55.' The undersigned attorney has reviewed the disclosure, particularly those portions relating to Figs. 3-5, and believes that the description adequately describes and shows the sloping portion. (Support for this assertion may be found through a review of page 5, line 18 through page 6; line 8, where a detailed discussion of the variation of the depth of the channel from the central part 52 to the peripheral part 51 is found.) Accordingly, this objection is respectfully traversed; and it is respectfully requested that this objection be withdrawn.

Objections to the Specification

Some of the objections to the specification have been addressed via proposed changes to the drawings.

The amendments to the paragraphs address the objections to page 3, line 26; page 4, line 13; page 5, line 10;and page 5, lines 22 and 24. The amended paragraphs are believed to overcome the objection to the specification. Withdrawal to these objections is respectfully requested.

Rejections Under 35 USC § 112, § 102, and § 103

1. ***Claims 1-3 were rejected under 35 USC § 112, ¶ 2, as being indefinite for particularly point out and distinctly claim the subject matter that the inventor regards as his invention.***

The issues raised in the office action are believed to be moot in view of the amendments to the specification and the proposed drawing changes. In particular, the rejections set forth on page 4 of the Office Action have been addressed above. As such, it is respectfully requested that these rejections be withdrawn.

With regard to the rejection on page 5, newly added claim 6 includes the limitation that "*...said grinding being started at a position away from an outer edge (57) of said plate (36) and being stopped before the grinding wheel reaches an opposite outer edge of said plate.*"

This italicised portion of the claim when read in light of drawings 2, 3 and 5, is readily understood to portray the range of grinding to for the channels. As such, it is respectfully asserted that no issue of indefiniteness under remains under 35 USC § 112, ¶ 2.

2. ***Claim 1 was rejected under 35 USC § 102(e), as being anticipated by Tsuroka, et al. (US Patent No. 6,373,190).***

For at least the reasons set forth herein, newly added claim 4, and claim 5, which depends therefrom, are believed to define over the applied reference.

A proper rejection under 35 U.S.C. § 102(e) for anticipation requires, as the first step in the inquiry, that **all the elements** of the claimed invention be described in a single reference. A necessary corrolary to this test of anticipation is that the **absence of any claimed element** negates anticipation.

Claim 4 includes the limitation of:

"*...longitudinal channels (20)...*" and "*...electrodes (30, 31)* ***disposed in*** *said longitudinal channels (20)...*"

In clear contrast to this referenced claim limitation, the electrodes of the reference to *Tsuroka, et al.* does not disclose that the electrodes are disposed in channels. Rather the reference discloses terminals of address electrodes 3 **beneath** ribs 4. In the embodiments shown and described in connection with Figs. 1 and 3 of the reference, the bodies of the address electrodes are covered by a dielectric layer 3, and by a sheet shaped joining element 35, respectively. In neither case are the electrodes of the reference to *Tsuroka, et al* disposed in longitudinal channels, as is specifically claimed.

Accordingly, for at least the reasons set forth above, claim 4, and its dependent claim define over the reference to *Tsuroka, et al.* Allowance is earnestly solicited.

3. Claim 2 was rejected under 35 USC § 103(a), as being unpatentable over Tsuroka, et al. (US Patent No. 6,373,190) in view of Asano (US Patent No. 6,353,288).

For at least the reasons set forth herein, newly added claim 5 is believed to define over these applied references.

It is established that a *prima facie* case of obviousness requires that **all of the elements** be found in the prior art. Necessarily, **if one element of the prior art is missing** from the applied art, a prima facie case of obviousness cannot be established. Moreover, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is a teaching, suggestion or motivation to do so found in the references relied upon or in the knowledge generally available to one having ordinary skill in the art. However, hindsight is never an appropriate motivation for combining references and/or knowledge generally available to one having ordinary skill in the art. Accordingly, relying upon hindsight knowledge of an applicant's disclosure when the prior art does not teach nor suggest such knowledge results in the use of the invention as a template for its reconstruction.

For the reasons discussed in connection with claim 4 from which claim 5 directly depends, and in no way acquiescing that the combination of the applied references is proper, it is respectfully submitted that at least one of the elements set forth in claim 5 is not disclosed in the applied art. Therefore, claim 5 is believed to be allowable over the applied art. Allowance is earnestly solicited.

4. Claim 3 was rejected under 35 USC § 103(a), as being unpatentable over Tsuroka, et al. (US Patent No. 6,373,190) in view of French (US Patent No. 6,400,423).

For at least the reasons set forth below, newly added claim 6 is believed to define over the applied art.

As referenced above, a *prima facie* case of obviousness requires that **all of the elements** be found in the prior art. Necessarily, **if one element of the prior art is missing** from the applied art, a prima facie case of obviousness cannot be established.

Newly added claim 6 includes the limitation of:

"...providing a plate (36) having longitudinal channels (20) and a peripheral part (50, 51) adjacent to at least one side of the channels; and

"***disposing electrodes (30,31) in*** *said longitudinal channels, ... "*

As discussed in detail above relative to claim 4, the reference to *Tsuroka, et al.* is void of at least a teaching of this claimed element. Accordingly, a prima facie case of anticipation cannot be properly established based on the applied art. Claim 6 is therefore believed to be allowable over the applied art. Allowance earnestly solicited.

Conclusion

In view of the forgoing remarks, reconsideration and withdraw of all objections and rejections are respectfully requested. An early notice of allowance is earnestly solicited.

Except as otherwise stated in the previous Remarks, applicants note that each of the amendments have been made to place the claims in better form for U.S. practice or to clarify the meaning of the claims; not to distinguish the claims from prior art references, otherwise narrow the scope or comply with other statutory requirements. Moreover, Applicants reserve all rights they may have under the Doctrine of Equivalents.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact William S. Francos, Esq. (Reg. No. 38,456) at (610) 375-3513 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted on behalf of:

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Date: October 25, 2002

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1. Marked Versions of Amended Paragraphs

First Amended Paragraph:

Figure 2 illustrates a PALC display panel using LC material. Only three of the column electrodes 18 are shown. The row electrodes 20 are formed by a plurality of parallel elongated sealed channels underlying (in Figure 2) a layer 42 of the LC material. Each channel 20 is filled with an ionizable gas 44, closed off with a dielectric sheet 45 typically of glass, and contains, on an interior channel, first and second spaced elongated electrodes 30, 31 which extend through the full length of each channel in this example. The first electrode 30 is at a first potential (for instance, ground) and is commonly called the cathode. The second electrode 31 is called the anode, because it will supply and be supplied with a pulse voltage (strobe pulse) which is positive, relative to the potential on the cathode, and is sufficient to cause electrons to be emitted from the cathode 30 to ionize the gas in the channel(s). Each channel has, in turn, its gas ionized with a strobe pulse to form a plasma and a grounded line connection with a row of pixels in the LC layer above. When the strobe pulse has terminated, and after de-ionization has taken place, the next channel is ignited and turned on. Since each column electrode 18 crosses a whole column of pixels, only one plasma row connection at a time is allowed on so as to avoid cross-talk. The height of the strobe pulse voltage inside the channel will determine whether or not the plasma row is turned on. The height of the strobe pulse inside the channels is not just dependent on the voltages supplied by the output amplifiers [12] 21, because losses or changes may occur between the output amplifiers and the electrodes within the channels. The clearest example of such a loss would be a discontinuity in an electrode (or the lead to the electrode), which would lead to malfunctioning. An accurate transmission and a reduction of possible losses of the strobe pulse between the supply means (in this example including the amplifiers 21) and the electrodes inside the channels is therefore an important factor for the reliability and quality of the display device. The inventors have realized that steps in height in the channels form a risk in this respect.

Second Amended Paragraph:

Figure 4 shows a cross-sectional view taken along [on a] line 3-3 of Figure 3. The bottom

of the channels 20 filled with ionizable gas extend in a bottom plane I, the tops extend in a top plane II, these[s] planes defining the depth D of the channels 20. Each channel 20 in plate 36 is provided with electrodes 30 and 31. The depth D is typically 0.15-0.25 mm, but is not limited thereto.